OpenVMS AXP Version 6.1 Release Notes Addendum

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This document describes features, changes, and restrictions that apply to the OpenVMS AXP Version 6.1 operating system.

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Preface

This manual describes features and restrictions for OpenVMS AXP Version 6.1. These notes supplement the *OpenVMS AXP Version 6.1 Release Notes* manual.

Intended Audience

This manual is intended for all users of the OpenVMS AXP Version 6.1 operating system.

Conventions

In this manual, every use of OpenVMS AXP means the OpenVMS AXP operating system, every use of OpenVMS VAX means the OpenVMS VAX operating system, and every use of OpenVMS means both the OpenVMS AXP operating system and the OpenVMS VAX operating system.

The following conventions are also used in this manual:

V1.x	A margin note beneath each heading indicates the OpenVMS AXP version in which the note was first published. All notes identified with the *V1.0* or *V1.5* margin note also apply to OpenVMS AXP Version 6.1.
Ctrl/*x*	A sequence such as Ctrl/*x* indicates that you must hold down the key labeled Ctrl while you press another key or a pointing device button.
. . .	In examples, a horizontal ellipsis indicates one of the following possibilities: • Additional optional arguments in a statement have been omitted. • The preceding item or items can be repeated one or more times. • Additional parameters, values, or other information can be entered.
. . .	A vertical ellipsis indicates the omission of items from a code example or command format; the items are omitted because they are not important to the topic being discussed.
( )	In format descriptions, parentheses indicate that, if you choose more than one option, you must enclose the choices in parentheses.
[ ]	In format descriptions, brackets indicate optional elements. You can choose one, none, or all of the options. (Brackets are not optional, however, in the syntax of a directory name in an OpenVMS file specification, or in the syntax of a substring specification in an assignment statement.)

boldface text	Boldface text represents the introduction of a new term or the name of an argument, an attribute, or a reason. Boldface text is also used to show user input in Bookreader versions of the manual.
italic text	Italic text emphasizes important information, indicates variables, and indicates complete titles of manuals. Italic text also represents information that can vary in system messages (for example, Internal error *number*), command lines (for example, /PRODUCER=*name*), and command parameters in text.
UPPERCASE TEXT	Uppercase text indicates a command, the name of a routine, the name of a file, or the abbreviation for a system privilege.
-	Hyphens in coding examples indicate that additional arguments to the request are provided on the line that follows.
numbers	All numbers in text are assumed to be decimal, unless otherwise noted. Nondecimal radixes—binary, octal, or hexadecimal—are explicitly indicated.

1

OpenVMS AXP Version 6.1 Release Notes

The following release notes supplement the *OpenVMS AXP Version 6.1 Release Notes* manual.

1.1 AXPVMS$PCSI_INSTALL_MIN.COM Copies Modified Files

V6.1

The command procedure AXPVMS$PCSI_INSTALL_MIN.COM is used to install OpenVMS AXP to provide functionality similar to that previously provided by Standalone BACKUP.

AXPVMS$PCSI_INSTALL_MIN.COM copies the following files (among others) from your system disk to a target disk:

```
[VMS$COMMON.SYS$LDR]VMS$SYSTEM_IMAGES.DATA
[VMS$COMMON.SYS$STARTUP]VMS$LAYERED.DAT
[VMS$COMMON.SYS$STARTUP]ESS$LAST_STARTUP.DAT
```

You can modify these files by editing them directly or by installing layered products. If AXPVMS$PCSI_INSTALL_MIN.COM is run after any of these files have been modified, errors may occur when booting the target system. In general, the errors will be related to files that cannot be found, and such errors can be safely ignored.

To avoid these errors, copy the files previously listed from the corresponding directories on the distribution compact disc to the target system after you run AXPVMS$PCSI_INSTALL_MIN.COM.

For more information, see the "Backing Up and Restoring the System Disk" appendix in the *OpenVMS AXP Version 6.1 Upgrade and Installation Manual*.

1.2 EISA Configuration Utility (ECU) — Problem

V6.1

Attempting to use the REMOVE command of the EISA Configuration utility (ECU) to clear an EISA slot formerly occupied by a DigiBoard DigiChannel PC/8 ISA card causes the ECU to crash. To avoid this problem, do the following:

1. Reinstall the firmware.

   This clears the configuration information from nonvolatile memory (NVRAM).

2. Run the ECU again to configure the system.

   Note

   This has the side effect of clearing out *all* ISA cards that have been installed on the system.

3. You must then go back and add the ISA cards that are still plugged in to the EISA bus.

1.3 Firmware Versions

The following notes pertain to firmware versions and OpenVMS Version 6.1.

1.3.1 Firmware Supported

V6.1

Table 1–1 lists the supported firmware versions for OpenVMS AXP Version 6.1. While it is possible to run OpenVMS AXP Version 6.1 on earlier versions of firmware to provide flexibility in the order of upgrade, you should upgrade your firmware as quickly as possible to the supported versions to pick up critical bug fixes.

Table 1–1 Firmware Versions for OpenVMS AXP Version 6.1

System	Console	Supporteded PALcode	Minimum PALcode
DECpc AXP 150	V1.3	5.48	5.41
DEC 2000 Model 300	V1.3	5.48	5.41
DEC 3000 Model 300	V3.3	5.48	5.41
DEC 3000 Model 400	V3.3	5.48	5.41
DEC 3000 Model 500	V3.3	5.48	5.41
DEC 3000 Model 600	V3.3	5.48	5.41
DEC 3000 Model 800	V3.3	5.48	5.41
DEC 4000	V3.4	5.48	5.41
DEC 7000	V3.2	5.48	5.41
DEC 10000	V3.2	5.48	5.41
Digital 2100 Server	V3.5	5.48	5.41

Digital recommends updating the firmware before performing the upgrade to OpenVMS AXP Version 6.1.

1.3.2 Upgrading to Version 1.3 Firmware on DEC 2000 Model 300/500 Systems

V6.1

If you have an existing DEC 2000 Model 300/500 system running console firmware prior to Version 1.3, you must upgrade your system to Version 1.3 using the Version 2.8 firmware CD–ROM (the 2.8 version number refers to the CD–ROM itself, not the version of the firmware). After you power-cycle the system at the end of the firmware upgrade, the system will prompt you to run the EISA Configuration utility (ECU) to reconfigure the EISA bus (because upgrading the firmware erases the current EISA bus information from nonvolatile random access memory, or NVRAM). The ECU utility is contained on a separate floppy diskette. If you later add or remove an EISA option, the system will prompt you to run the ECU again. See the hardware service and technical manuals that came with your computer for more information about console firmware and the ECU.

Note

Before upgrading the firmware on your DEC 2000 Model 300/500 system, note the following as well:

- If you are using a terminal connected to the serial line as your console, set the terminal to "Eight-bit controls" mode. If you do not, the arrow and function keys will not work with the ECU.
- After you complete the firmware upgrade to Version 1.3, you must install or upgrade your system to Version 6.1 of the OpenVMS AXP upgrade system. Previous versions of the OpenVMS AXP operating system are not compatible with the Version 1.3 firmware.

1.4 HSD05 Array Controller

The following notes pertain to the HSD05 array controller.

1.4.1 Description

V6.1

The HSD05 array controller is the entry-level product of the StorageWorks HSD family of bus controllers. The HSD05 array controller is installed in a 3½-inch StorageWorks building block (SBB) and is used to connect a Digital host DIGITAL storage subsystem interconnect (DSSI) bus to up to seven Small Computer System Interconnect (SCSI) drives.

When connected to a single port on a host DSSI bus, the HSD05 array controller provides connectivity for up to seven SCSI or SCSI–2 disk, tape, and solid-state disk devices.

One or more HSD05 array controllers can be connected on the DSSI bus containing RFxx or TFxx drives, host nodes, or other DSSI-compliant nodes (up to eight nodes maximum).

1.4.2 Features and Capabilities

V6.1

The HSD05 array controller provides the following features:

- Multihost support for up to three host DSSI nodes in a VMScluster environment
- User-selectable SCSI and DSSI node IDs
- OpenVMS diagnostic and utility protocol (DUP) utility support for modifying operating parameters, such as DSSI nodename and device allocation classes
- Host-Based Volume Shadowing (with some restrictions)

Each device served by the HSD05 array controller is independently addressable. Attached disk, tape, and solid-state drives appear to the host as standard DIGITAL storage architecture (DSA) devices. Disk allocation class is user-definable, with all attached disks sharing the class value. Tape allocation class is independently user-definable in the same manner.

The HSD05 array controller identifies itself on the CI bus as a device of type RF72; its software revision is RFX B1. This identification is in device name only, and does not reflect actual device geometries.

1.4.3 Overview of Operating Requirements and Limitations

V6.1

The HSD05 array controller identifies attached disk devices as RF72 or RA82 disk drives, and attached tape devices as TU81 tape drives. This does not affect the actual accessible device storage space.

Tape drives such as the TLZ06 and TLZ6L offer multiple tape density settings, supported by the HSD05. Tape drives not offering this capability, such as the TZ86, operate in single-density, noncompacted mode only.

The HSD05 array controller does not support dual pathing or failover operation for attached devices.

The HSD05 array controller does not sequence disk drives when spinning up. To minimize surge current to the disk drives, spin up one or two drives at a time.

While attached drives can be removed when the SCSI bus is inactive (warm-swapped), they should not be removed with the SCSI bus active (hot-swapped) to avoid the possibility of data corruption errors. The HSD05 array controller itself should only be removed when the power is off to all nodes on the DSSI bus that is attached to the HSD05 array controller, and shelf power is disconnected (cold-swap).

Though it comprises the low end of the HSD family of array controllers, the HSD05 array controller does not support DIGITAL Standard Disk Format (DSDF) protocol. Drives written by the HSD05 array controller can only be read by other StorageWorks array controllers using Transportable mode format; refer to the documentation supplied by other units on the use of this mode.

Caution

Whenever a host on a DSSI bus containing an HSD05 array controller is rebooted, Digital recommends that the HSD05 array controller also be reset to ensure consistent reporting of HSD05-served devices to the host. This can be accomplished by issuing a restart command in the PARAMS configuration utility, or by removing and restoring power to the HSD05-served shelf.

1.4.4 OpenVMS Host-Based Volume Shadowing — Restrictions

V6.1

The following restrictions apply to creating shadow sets:

- The HSD05 array controller supports OpenVMS Host-Based Volume Shadowing, but does not support controller-based shadowing assists.
- No HSD05 array controller-based Redundant Array of Independent Disks (RAID) functionality is supported.
- OpenVMS host-based shadow sets using HSD05 array controller-served disk drives must be of the same SCSI device type, for example RZ26, RZ26L, or RZ28 disk drives.
- Due to device geometry differences, a disk drive served by the HSD05 array controller cannot be part of an OpenVMS host-based shadow set with true RF72 (or any other DSSI device) disk drives.

1.4.5 Setting Parameters

V6.1

The OpenVMS diagnostic and utility protocol (DUP) utility provides a gateway to modifying HSD05 array controller parameters. You can run this utility from either the system console or the OpenVMS system prompt.

Once a DUP connection to the HSD05 array controller is established, the onboard PARAMS configuration utility is used to set and show HSD05 parameters.

For more information, see the *HSD05 Array Controller User's Guide* (order number EK-HSD05-UG.B01), which is part of the StorageWorks documentation set.

1.4.6 Device Utilities

V6.1

The HSD05 onboard utilities (UTILIT) allow you to monitor, format, qualify, and exercise SCSI devices from the OpenVMS operating system. You can access the onboard utilities through the diagnostic and utility protocol (DUP) server, either through the system console or from the OpenVMS prompt.

For more information, see the *HSD05 Array Controller User's Guide* (order number EK-HSD05-UG.B01), which is part of the StorageWorks documentation set.

1.5 Installing OpenVMS from the InfoServer — Restrictions

V6.1

The following restrictions apply to installing OpenVMS from the InfoServer:

- Using the DEFZA (TURBOchannel to FDDI) adapter is not supported.
- Using an optional network adapter as the boot device is not supported for DEC 3000 Model 600 and the DEC 3000 Model 600S systems.

1.6 LIBDECOMP.COM Can Fail Silently

V6.1

If the system parameter VIRTUALPAGECNT is too low, or if the PGFLQUOTA field in the user authorization file is too low, running the command procedure SYS$UPDATE:LIBDECOMP.COM to decompress libraries can fail without any error message. This failure leaves one or more libraries incomplete and potentially unusable.

To avoid this problem, set PGFLQUOTA to at least twice the size of the library. The value 23,000 given in section 5.20 of the *OpenVMS AXP Version 6.1 Release Notes* is not sufficient.

1.7 MOVEFILE and VMScluster Directory Files

V6.1

On OpenVMS AXP Version 6.1, running MOVEFILE on directory files in a VMScluster system may lead to bad directory files if the directory files are cached on another node.

This problem occurs only with directory files and only when you are running the MOVEFILE primitive, the POLYCENTER File Optimizer for OpenVMS, or any other defragmentation product that makes use of MOVEFILE in a VMScluster system.

As an interim solution to this problem, do one of the following:

- If you are using POLYCENTER File Optimizer for OpenVMS to defragment your disk, then use the qualifier `/EXCLUDE=[000000...]*.dir;1` to prevent any directories being moved on the volume you are defragmenting.

- Use the following command to prevent MOVEFILE from moving any of the directories on your disk:

  ```
  $ SET FILE/NOMOVE [000000...]*.dir
  ```

  Execute this command for each volume on which you will be running the MOVEFILE primitive.

  Note that this command will not protect any new directories created on your volume after running this command.

- Dismount the device on which you want to run MOVEFILE from all nodes in your VMScluster system, and mount it privately on your local node. After your MOVEFILE operations are complete, you can remount the device on all the nodes in your VMScluster system.

1.8 POLYCENTER Software Installation utility

The following notes pertain to the POLYCENTER Software Installation utility.

1.8.1 PRODUCT Command — Problem

V6.1

The PRODUCT command may cause indexed and relative files to be truncated during a package or install operation. To determine if a particular file is susceptible to being truncated, do a DIR/SIZE=ALL of the file. If the two sizes are the same, your file will not exhibit this problem. If the two sizes are not the same, perform the following SET FILE command prior to a package or install:

```
$ SET FILE/END_OF_FILE file-in-question.dat
```

This command should only be issued for an indexed or relative file, since the end-of-file (EOF) attribute is meaningful for sequential files.

This problem will be corrected in a future release.

1.8.2 Use of SCOPE Statement

V6.1

In the *POLYCENTER Software Installation Utility Developer's Guide*, the **scope** statement is described in the Product Description Language (PDL) reference section and in Appendix B. The following notes apply to the scope statement:

- *Bootstrap Scope* should be used for products that use device drivers, especially those drivers that must be read by the primitive file system. Because files in Bootstrap Scope are read by the primitive file system, they are read when not synchronized with the file system on other cluster members that might access the same disk. Therefore, those files must retain stable positions as long as the disk is in use from *any* system and must not be manipulated by online disk defragmentation operations, even those which use the MOVEFILE primitive.
- *Product Scope* is the default scope for most objects; therefore, it is generally unneccessary to specify Product Scope.
- *Operating Scope* is not implemented for this version of the POLYCENTER Software Installation Utility.

1.9 *OpenVMS AXP Version 6.1 Release Notes* — Documentation Correction

V6.1 The following notes contain corrections to the *OpenVMS AXP Version 6.1 Release Notes* manual.

1.9.1 Recommended Value for PGFLQUOTA

V6.1 In Section 5.20 of the *OpenVMS AXP Version 6.1 Release Notes* manual, the value of 23,000 recommended for the process quota PGFLQUOTA is insufficient. To avoid the Librarian problem described there, set PGFLQUOTA to at least twice the size of the relevant file.

1.9.2 DEC C Run-Time Library (RTL) Notes

V6.1 The following release note appears in Section 5.3.2.1 of the *OpenVMS AXP Version 6.1 Release Notes* manual, under the heading "Input/Output Subsystem Fixes":

> While the documentation specifies that STREAM, STREAM_CR, and STREAM_LF files would default to being opened in "ctx=stm" mode, this was not true. This was only true for STREAM_LF files. It is now true of all three file types. If record access mode is necessary for your application, then an explicit "ctx=rec" is required in the open statement.

This release note should be ignored and the following two release notes used in its place:

- Chapter 1 of the *C Run-Time Library Reference Manual* incorrectly states that STREAM and STREAM_CR files are opened in "ctx=stm" mode by default. These file types default to record access.
- When accessing STREAM files in record mode, RMS removes leading null characters from the records. If your application opens a STREAM file and the data can contain leading null characters, Digital recommends using the "ctx=stm" mode on the open statement, which results in the C RTL determining the contents of the records. The record is defined as all characters up to and including the next <LF> in the file.

1.10 SET HOST/LAT Connections — Setting Terminal Server Characteristics

V6.1 The SET HOST/LAT facility has been modified in OpenVMS AXP Version 6.1, particularly in the area of initiating connections. Some of this work was done in anticipation of new SET HOST/LAT functionality that is planned for a future OpenVMS release (for example, SET HOST/LAT/SPEED=9600).

Because of this change, SET HOST/LAT connections may attempt to set terminal server port characteristics, such as the speed and the default speed for a LAT device.

This is apparently because the REMOTE MODIFICATION characteristic is enabled on the terminal server port. If the device connected to the terminal server port has a fixed speed (such as a dial-out modem) and you do not want to have the host change this, you must disable the REMOTE MODIFICATION

characteristic on that port. To disable the REMOTE MODIFICATION characteristic on the terminal server port, use the following command:

```
Local> DEFINE PORT x REMOTE MODIFICATION DISABLE
Local> LOGOUT PORT x
```

Use the following command for terminal servers that support the CHANGE command:

```
Local> CHANGE PORT x REMOTE MODIFICATION DISABLE
```

If the terminal server port speed is being allowed to change with the REMOTE MODIFICATION characteristic disabled, there is a malfunction in the terminal server software.

REMOTE MODIFICATION should only be enabled if you want the host to change terminal server port characteristics while the port has a connected LAT session.

1.11 System Directories Lack World Read Access

V6.1

During installation of OpenVMS AXP Version 6.1, the following five directories are created without world read access:

```
[VMS$COMMON]
[VMS$COMMON.SYSEXE]
[SYS0]
[SYS0.SYSEXE]
[SYS0.SYSCOMMON]
```

This happens only during installation; directory protections are not changed during an upgrade.

The absence of world read access to these directories prevents certain types of access that are normally permitted. For example, wildcard access to files in these directories is not allowed from unprivileged accounts.

To provide the same access as previously provided by OpenVMS AXP, execute the following five commands from an appropriately privileged account after booting your newly installed system:

```
$ SET FILE/PROTECTION=W:RE SYS$SYSDEVICE:[000000]VMS$COMMON.DIR
$ SET FILE/PROTECTION=W:RE SYS$SYSDEVICE:[VMS$COMMON]SYSEXE.DIR
$ SET FILE/PROTECTION=W:RE SYS$SYSDEVICE:[000000]SYS0.DIR
$ SET FILE/PROTECTION=W:RE SYS$SYSDEVICE:[SYS0]SYSEXE.DIR
$ SET FILE/PROTECTION=W:RE SYS$SYSDEVICE:[SYS0]SYSCOMMON.DIR
```

1.12 VMScluster Systems — Adding CI or DSSI Nodes

V6.1

When you use the command procedure CLUSTER_CONFIG.COM to add a new CI or DSSI node to a VMScluster system, CLUSTER_CONFIG.COM sets the VOTES parameter in the parameter file ALPHAVMSSYS.PAR to 1. When the new node firsts boots and runs AUTOGEN, the VOTES parameter is incorrectly set to zero. If the original cluster had only a single vote, when the newly added node shuts down after running AUTOGEN, the cluster loses quorum. When the new node reboots with zero votes, quorum is not restored.

To avoid this problem, after running CLUSTER_CONFIG.COM, add the line VOTES=1 to the file MODPARAMS.DAT in the directory [SYSn.SYSEXE] of the new node.

If you have lost quorum due to this problem, perform a conversational boot and adjust the VOTES parameter of the new node to 1. After the new node boots and restores quorum, you can edit MODPARAMS.DAT.

1.13 VMSINSTAL.COM

V6.1

When installing layered products with VMSINSTAL.COM, the version number of the product is reported as T*n.n* instead of V*n.n* in some cases. This only affects the text string displayed, for example:

```
Enter the products to be processed from the first distribution volume set.

* Products: SOMEPRODUCT010
* Enter installation options you wish to use (none): <RETURN>

The following products will be processed:

  SOMEPRODUCT V1.0

 Beginning installation of SOMEPRODUCT T1.0 at 13:21
```

1.14 Volume Shadowing Disables Minimerge in Mixed-Architecture Clusters

V6.1

In Volume Shadowing for OpenVMS AXP Version 6.1, several changes have been made to the assisted merge functionality, also known as minimerge. The impact of these changes is great enough that if shadow sets are mounted on an OpenVMS AXP Version 6.1 node, and also on other types of node in the same cluster, minimerge functionality will be disabled. To reenable assisted merge functionality, you must apply the latest CSCPAT (TIMA) kit to all VMScluster nodes mounting the shadow set.

With minimerge disabled, shadowing will continue to function normally. However, a full merge will always be done when a merge operation is required. Because a full merge will take considerably longer to complete than a minimerge operation, Digital strongly recommends that you install the patch kits.

All Volume Shadowing customers should contact their support channels to obtain the latest CSCPAT (TIMA) kits for Volume Shadowing on the following versions:

OpenVMS VAX Version 6.1
OpenVMS VAX Version 6.0
OpenVMS VAX Version 5.5-2
OpenVMS AXP Version 1.5 (Shadowing Layered Product)

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